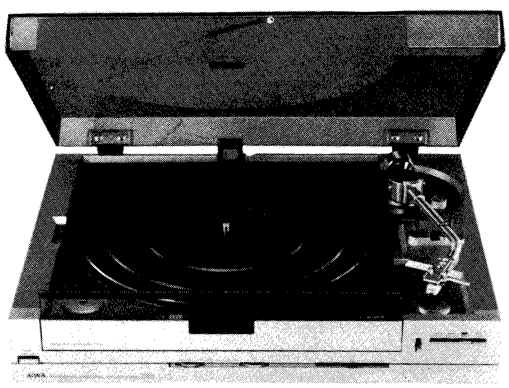
FULL AUTOMATIC DIRECT DRIVE TURNTABLE SYSTEM

MODEL NO. AP-D80H, G

AIWA®

(SERVICE MANUAL)

Code No. 07-800-000-12



DATE OF ISSUE 10/1981

SPECIFICATIONS

Type:	Full automatic direct drive turntable system
Semiconductors:	1 IC's, 23 transistors, 20 diodes, 4 LED's, 1 photo transistor
Power source:	H model AC 120V/220V/240V switchable, 50/60 Hz G model AC 240V, 50/60 Hz
Power consumption:	12W
Dimensions:	450(W) x 106.5(H) x 375(D) mm
Weight:	7 kg

< **Turntable section** >

Drive system:	Frequency generated direct drive system
Motor:	4 phase 8-pole linear torque DD hall motor x 1 DC motor x 2
Turntable platter:	Aluminum alloy diecast Diameter 300 mm Weight 1.3 kg
Moment of inertia:	220 kg/cm^2
Speeds:	33-1/3, 45 rpm
Wow & flutter:	0.028% (WRMS)
Signal to noise ratio: (Weighted)	More than 57 dB (IEC B) More than 75 dB (DIN B)

< **Tone arm section** >

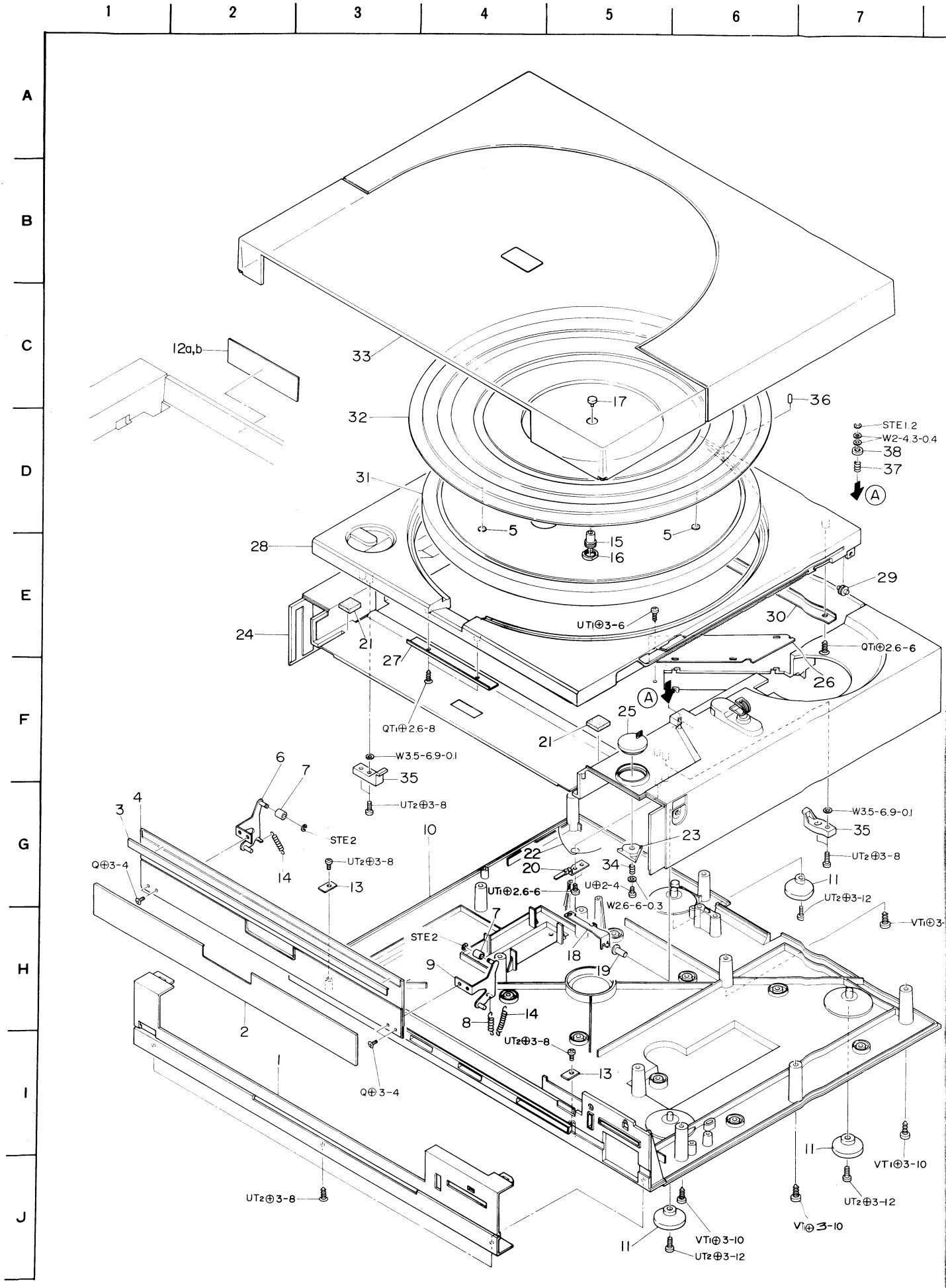
Type:	Static-balanced S type
Effective arm length:	215 mm
Overhang:	15 mm
Usable cartirdge weight:	3.5 to 8.5 g
Maximum weight:	18.5 g (with head shell)
Offset angle:	21.5°
Applicable tracking force:	0 to 3 g (0 to 29.4 mN) (direct readout of tracking force)
Tracking error:	+5.8°, +0.1°

< **Cartridge section** >

Type:	VM type
Output voltage:	2.5 mV
Separation:	More than 17 dB (33-1/3 rpm, 1kHz)
Frequency response:	20 to 20,000 Hz
Static compliance:	15 x 10^{-6} cm/dyne.
Dynamic compliance:	4 x 10^{-6} cm/dyne.
Stylus pressure:	2.5g (Normal)
Load impedance:	2.8 kΩ ± 30% (1 kHz)
Load capacitance:	100 pF (50 kΩ)

- The specifications and external appearance of this set are subject to change without prior notice.

EXPLODED VIEW–1



PARTS LIST

MECHANICAL PARTS

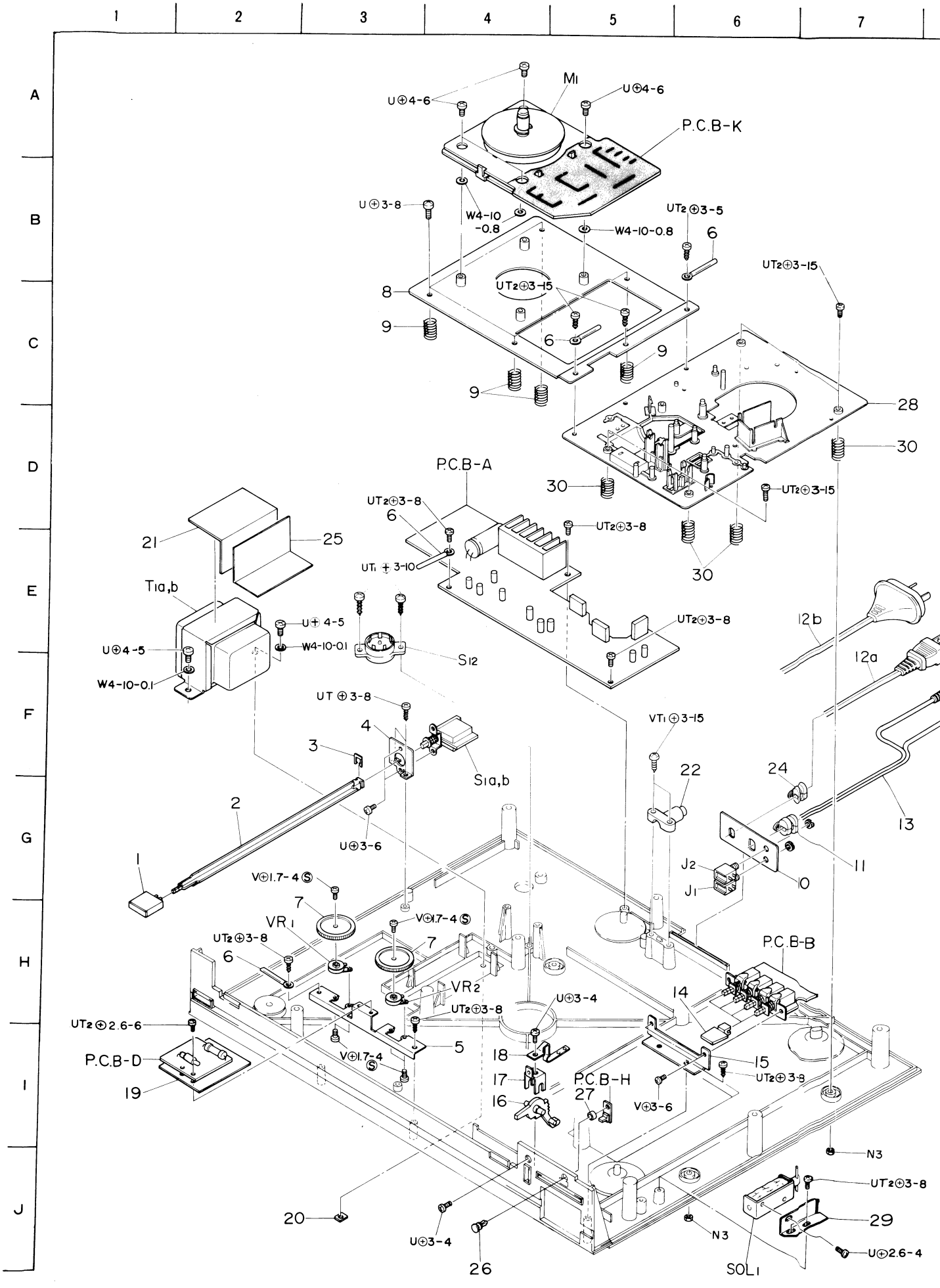
■ * mark in this part list shows exclusive part.

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1-1	84-122-003-01		Panel, Front	*	1
1-2	84-122-006-01		Decorative plate, Front B	*	1
1-3	84-122-005-01		Decorative plate, Front	*	1
1-4	84-122-004-01		Window, Front	*	1
1-5	84-184-373-01		Cushion		4
1-6	84-122-215-01		Holder L, Window	*	1
1-7	84-117-305-01		Roller, Window	AP-D50	2
1-8	84-117-307-01		E-spring, Lever FG	AP-D50	1
1-9	84-122-214-01		Holder R, Window	*	1
1-10	84-122-002-01		Cabinet, Bottom	*	1
1-11	84-122-017-01		Rubber foot, 70 Ass'y	*	4
1-12a	84-122-011-01		Name plate, Spec. (H model only)	*	1
1-12b	84-122-015-01		Name plate, Spec. (G model only)	*	1
1-13	84-122-216-01		Holder B, Window	*	2
1-14	84-122-229-01		E-spring, Window	*	2
1-15	84-117-031-11		Spindle (TT sheet)	AP-D50	1
1-16	84-117-037-01		Lock screw (TT sheet)	AP-D50	1
1-17	84-117-054-01		Cap Spindle (TT sheet)	AP-D50	1
1-18	84-117-292-01		Slide lever A	AP-D50	1
1-19	84-117-043-01		Button B, Cleaner	AP-D50	1
1-20	84-117-291-01		Holder K, Slide lever	AP-D50	1
1-21	84-117-347-01		Cushion B, Career	AP-D50	2
1-22	84-117-314-01		T-spring, Cleaner	AP-D50	1
1-23	84-117-290-01		Holder B, Cleaner	AP-D50	1
1-24	09-041-061-01		Main cabinet ass'y		1
	84-117-036-01		Name, Stylus cleaner	AP-D50	1
	84-117-062-01		Arm rest ass'y	AP-D50	1
	84-117-070-01		Himeron rest	AP-D50	1
	84-117-020-01		Window, Strobo	AP-D50	1
	84-117-051-01		Label, Stylus change	AP-D50	1
	84-122-001-01		Cabinet, Main	*	1
	84-117-015-01		Guide roller holder ass'y	AP-D50	1
	84-117-326-01		C-spring, Guide roller	AP-D50	2
	84-117-270-01		Guide roller	AP-D50	2
	84-117-025-01		Illumination, Window	AP-D50	1
	87-410-304-01		W2—4.3—0.4		2
	87-441-001-01		STE1.2		2
1-25	84-117-022-01		Holder L, Cleaner ass'y	AP-D50	1
1-26	84-122-007-01		Cover, Main cabinet	*	1
1-27	84-117-321-01		L-metal fitting, Carrier front	AP-D50	1
1-28	84-117-014-01		Carrier	AP-D50	1
1-29	82-439-317-01		Roller	TPR-300	2
1-30	84-117-322-01		L-metal fitting, Carrier back	AP-D50	1
1-31	84-117-005-01		Turntable	AP-D50	1
1-32	84-117-032-01		T, T sheet ass'y	AP-D50	1
1-33	84-117-055-01		Dust cover ass'y	AP-D50	1
1-34	84-117-363-01		C-spring cleaner	AP-D50	1
1-35	84-122-205-01		Holder B, Carrier	*	2
1-36	84-117-349-01		Supporter, TT sheet	AP-D50	1
1-37	84-117-326-01		C-spring, Guide	AP-D50	1
1-38	84-117-270-01		Guide, Roller	AP-D50	2

CAUTION

This model is based on AP-D50 please refer to the AP-D50 in case of disassembly and how to operation.

EXPLODED VIEW—2



ELECTRICAL MAIN PARTS LIST

Symbol No.	Part No.	Description
≪MAIN CIRCUIT BOARD SECTION≫		
PCB-A	*	Main circuit board
ϟ IC101	87-027-564-01	IC, CMOS TC4011BP
Q101,102,103, 201,402,404, 406,407,408, 412,502	89-318-154-01	Transistor, 2SC1815 (Y)
Q104,401,410	89-320-011-01	Transistor, 2SC2001 (K)
Q403,409,411, 501	89-110-154-01	Transistor, 2SA1015 (Y)
Q405	89-109-521-01	Transistor, 2SA952 (K)
Q503,504	89-408-804-51	Transistor, 2SD880Y (GR)
D101,301,302, 303,403,404, 406,407,408, 409,410	87-027-219-01	Diode, MA-150
D401,503	87-027-606-01	Zener diode, HZ7C2L
D402,405,501, 502	87-027-365-01	Diode, S5277B
D504	87-027-402-01	Zener diode, HZ242L
D505	87-027-470-01	Zener diode, HZ163
SCR401	87-026-185-01	SCR, DRA03A
⚠ F1	87-035-233-01	Fuse, F800mA
	87-098-194-01	Fuse labe, F800mA
⚠ F2	87-035-145-01	Fuse, BS "T" 250mA
	87-098-010-01	Fuse label, "T" 250mA
	87-033-147-01	Fuse clamp
PIN-2	87-049-034-01	Pin, 4P
PIN-1	87-049-065-01	Pin, 5P
PIN-3	87-049-050-01	Pin, 6P
		< **Capacitors** >
C501	87-015-651-01	1000μF 63V Electrolytic
⚠ C500	87-019-107-01	0.01μF Spark killer (H model only)
⚠ C500	87-019-112-01	0.01μF Spark killer (G model only)
≪SWITCH-1 CIRCUIT BOARD SECTION≫		
PCB-B	*	Switch-1 circuit board
S7,8,9,10	87-031-673-01	Push-switch (REPEAT, LOAD IN/ LOAD OUT, PLAY/CUT, SPEED SELECTOR)
≪END SENSOR CIRCUIT BOARD SECTION≫		
PCB-C	*	End sensor circuit board
D2,3	84-195-638-01	LED, LN55
≪STROBO CIRCUIT BOARD SECTION≫		
PCB-D	*	STROBO circuit board
⚠ NL1	84-199-607-01	Neon lamp A
		< **Resistors** >
⚠ R6	87-025-262-01	12kΩ 2W Nonflammable (H model only)
⚠ R6	84-184-621-01	10kΩ 2W Nonflammable (G model only)
≪SUB-1 CIRCUIT BOARD SECTION≫		
PCB-E	*	Sub-1 circuit board
M2	84-122-619-01	DC motor
Q1,2	89-320-011-01	Transistor, 2SC2001 (K)
D1	87-027-365-01	Diode, S5277B
L1,2	87-005-121-01	Choke coil, 2.2μH

Symbol No.	Part No.	Description
		< **Resistor** >
⚠ R3	87-029-102-01	47Ω ¼w Fuse resistor
		< **Capacitor** >
C1	87-015-455-01	10μF 25V Electrolytic BP
≪LED-1 CIRCUIT BOARD SECTION≫		
PCB-F	*	LED-1 circuit board
D1	87-027-542-01	LED, LN217RP
≪PHOTO TRANSISTOR CIRCUIT BOARD SECTION≫		
PCB-G	*	Photo transistor circuit board
Q1	87-026-184-01	Photo transistor, TPS-603B
≪LED-2 CIRCUIT BOARD SECTION≫		
PCB-H	*	LED-2 circuit board
D1	87-027-817-01	LED, TLN-103
≪RELAY CIRCUIT BOARD SECTION≫		
PCB-I	*	Relay circuit board
≪SUB-2 CIRCUIT BOARD SECTION≫		
PCB-J	84-122-635-11	Sub-2 circuit board
M3	84-122-619-01	DC motor (ARM MOTOR)
L3,4	87-005-121-01	Choke coil, 2.2μH
		< **Capacitor** >
C2	87-015-455-01	10μF 25V Electrolytic BP
≪MISCELLANEOUS≫		
⚠ T1	84-122-601-01	Power transformer (H model only)
⚠ T1	84-122-603-01	Power transformer (G model only)
PL1	84-122-624-01	Lamp ass'y
VR1,2	87-021-704-01	Volume, 12.5φ 50kΩ-B (33-1/3, 45)
⚠ S1	87-031-568-01	Push-switch (POWER)
S2	84-190-612-01	Micro switch (REC SYNC)
S3,5	84-118-621-01	Micro switch (LOADING-1, ARM)
S4	87-031-494-01	Micro switch (MAIN GEAR)
S6	87-031-537-01	Micro switch (LOADING-2)
S11	87-031-491-01	Micro switch (REPEAT)
⚠ S12	87-031-586-01	Rotary switch (VOLTAGE SELECTOR) (H model only)
M1	84-122-618-01	DC motor (PHONO) (With/PCB-K)
SOL1	84-122-625-01	Solenoid, Size
J1,2	87-049-060-01	Jack, 2.5φ (REMOTE, REC SYNC RATE)
⚠	87-034-956-01	AC power cord (H model only)
⚠	87-034-872-01	AC power cord (G model only)
⚠	87-085-181-01	Cord bushing A (H model only)
⚠	87-085-182-01	Cord bushing B
⚠	87-085-166-01	Holder, AC power cord (G model only)
	84-122-623-01	Heat sink, 25BS051B-L25A
	84-199-606-01	Pin cord
CON-2	84-122-622-01	Connector ass'y, 4P
CON-1	84-122-621-01	Connector ass'y, 5P
CON-3	84-122-620-01	Connector ass'y, ESNS, 6P

⚠ Safety component symbol

This symbol is given to important parts which serve to maintain the safety of the product, and which are made to conform to special safety specifications. Therefore, when replacing a component with this symbol, make absolutely sure that you use a designated part.

C-MOS IC handling precaution

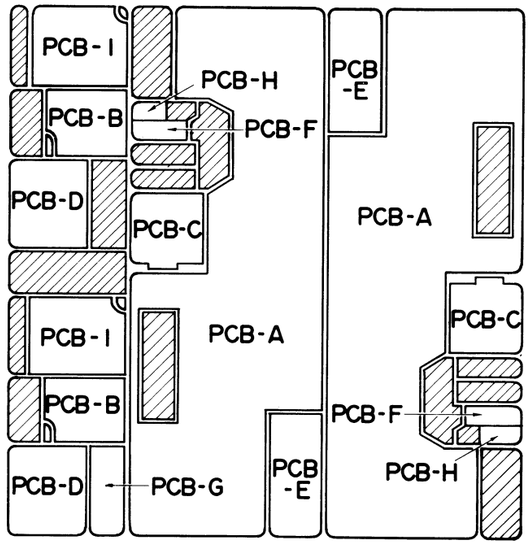
The C-MOS IC's construction makes this part susceptible to damage by static electricity and so take sufficient care in regard to following articles.

1. Need to be put on conductive sheet, to be put in a metallic box and to be wrapped by aluminium foil for transportation and deposit.
2. To use solder iron less than 40W (less than 260°C) of power consumption for soldering. But do not overheat more than 10 second.
3. Do not perform a conductivity test with a tester, etc. Refer to the circuit voltages of each part.
4. The ICs on the electrical parts which are indicated by an C-MOS IC symbol mark (ϟ).

Note; Combination Circuit Board

The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 84-122-606-11



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		≪ PHOTO TRANSISTOR CIRCUIT BOARD SECTION ≫
PCB-G	*	Photo transistor circuit board
Q1	87-026-184-01	Photo transistor, TPS-603B
		≪ LED-2 CIRCUIT BOARD SECTION ≫
PCB-H	*	LED-2 circuit board
D1	87-027-817-01	LED, TLN-103
		≪ RELAY CIRCUIT BOARD SECTION ≫
PCB-I	*	Relay circuit board
		≪ SUB-2 CIRCUIT BOARD SECTION ≫
PCB-J	84-122-635-11	Sub-2 circuit board
M3	84-122-619-01	DC motor (ARM MOTOR)
L3,4	87-005-121-01	Choke coil, 2.2μH
		< **Capacitor** >
C2	87-015-455-01	10μF 25V Electrolytic BP
		≪ MISCELLANEOUS ≫
⚠T1	84-122-601-01	Power transformer (H model only)
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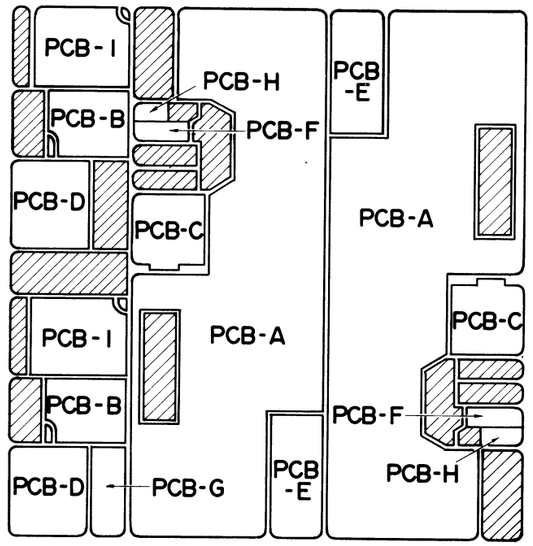
1. Need to be put on conductive sheet, to be put in a metallic box and to be wrapped by aluminium foil for transportation and deposit.
2. To use solder iron less than 40W (less than 260°C) of power consumption for soldering. But do not overheat more than 10 second.
3. Do not perform a conductivity test with a tester, etc. Refer to the circuit voltages of each part.
4. The ICs on the electrical parts which are indicated by an C-MOS IC symbol mark (⚡).

Note; Combination Circuit Board
The parts on the electrical parts list which are indicated by an asterisk (*) are supplied as one single combined circuit board. Therefore, they will not be supplied separately. If this becomes necessary, please order the entire circuit board.

Combination circuit board 84-122-606-11



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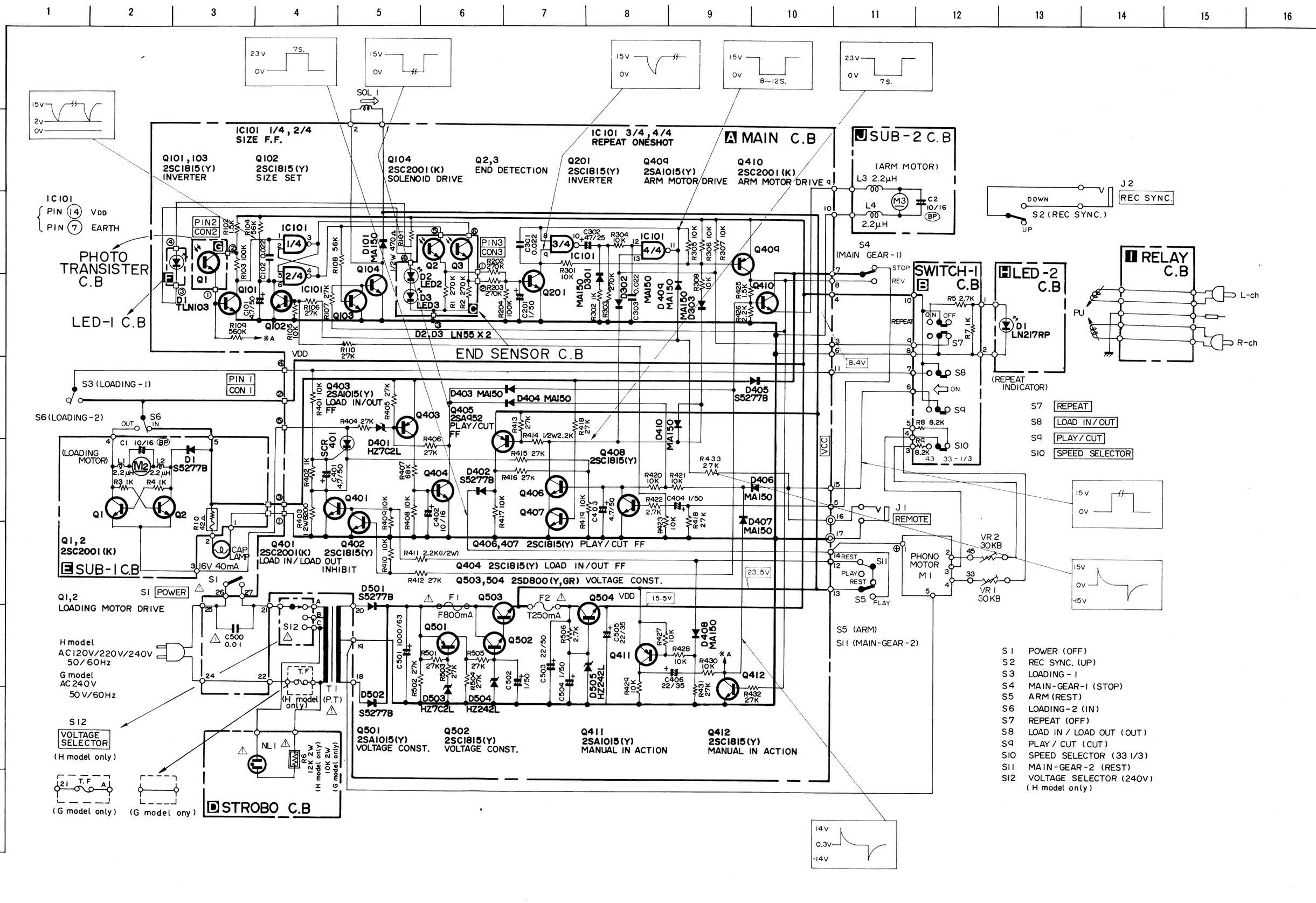
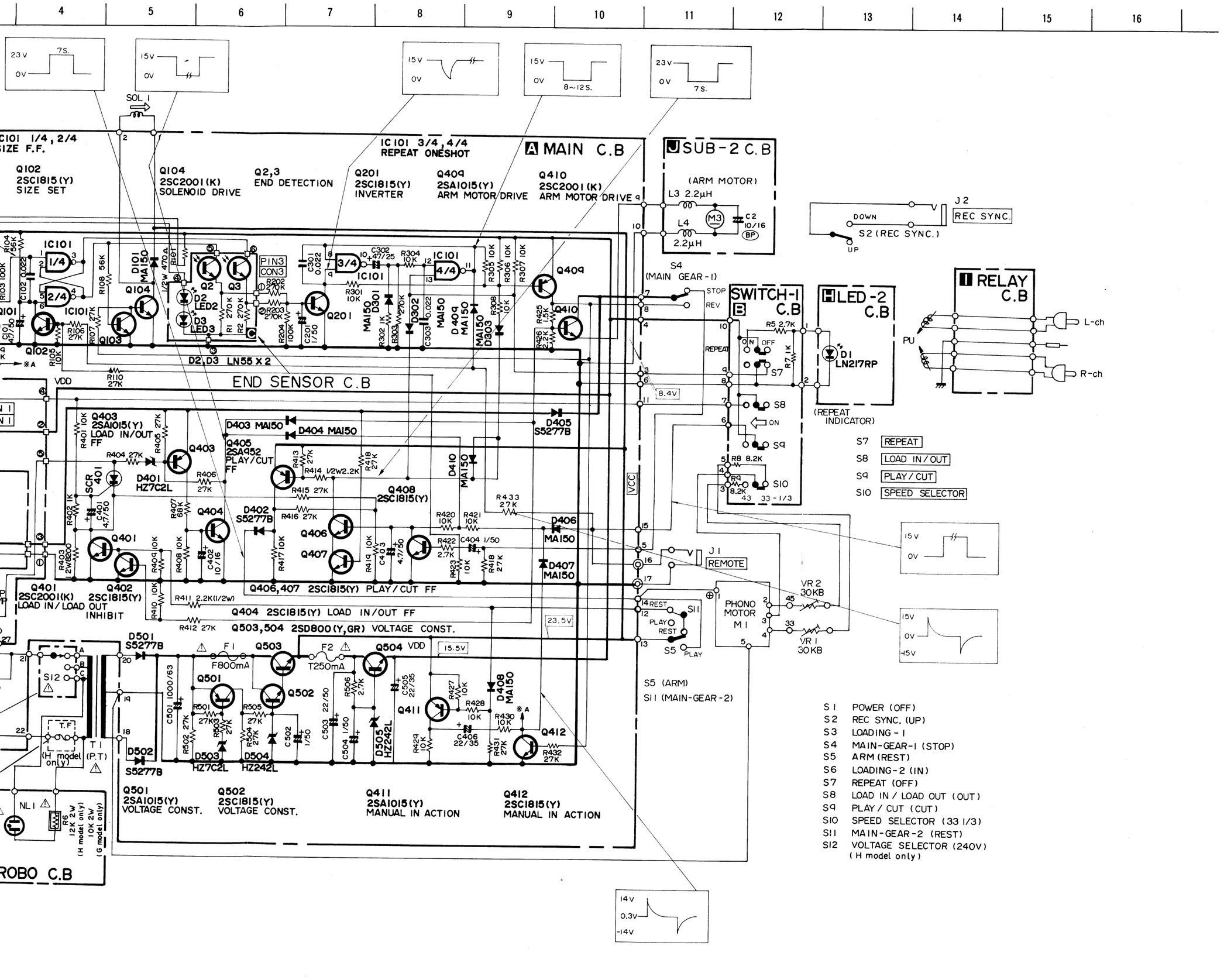
AP-D80H,G AP-D80H,G

SCHEMATIC DIAGRAM





NOTES:

1) ■ B (+) power supply
2) The voltage is the reference value measured with a tester (20 k-ohms/V DC) when there are no signals.
3) Resistors with no designation have a rated power of 1/4W and a tolerance of ±5%.
4) Capacitors with no designation have a dielectirc strneght of less than 50WV.
5) The only capacitor tolerance indicated are ±5% (J) and ±10% (K).
6) Ceramic capacitor symbols:
   - For temperature compensation (SL)
   - High dielectric constant system (YY)
   - High dielectric constant system (YW, YP, YZ)
7) Explanation of symbols
   - (M) Mylar capacitor
   - (PP) Polypropylene film capacitor
   - (BP) Bi-polarized capacitor
   - Fuse resistor
   - Nonflammable resistor

⚠ Safety component symbol
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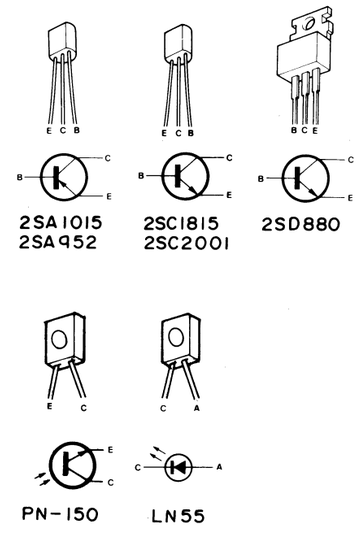
- This schematic diagram is subject to change without notice in the interests of improved performance.

S1 POWER (OFF)
S2 REC SYNC. (UP)
S3 LOADING-1
S4 MAIN-GEAR-1 (STOP)
S5 ARM (REST)
S6 LOADING-2 (IN)
S7 REPEAT (OFF)
S8 LOAD IN / LOAD OUT (OUT)
S9 PLAY / CUT (CUT)
S10 SPEED SELECTOR (33 1/3)
S11 MAIN-GEAR-2 (REST)
S12 VOLTAGE SELECTOR (240V) (H model only)



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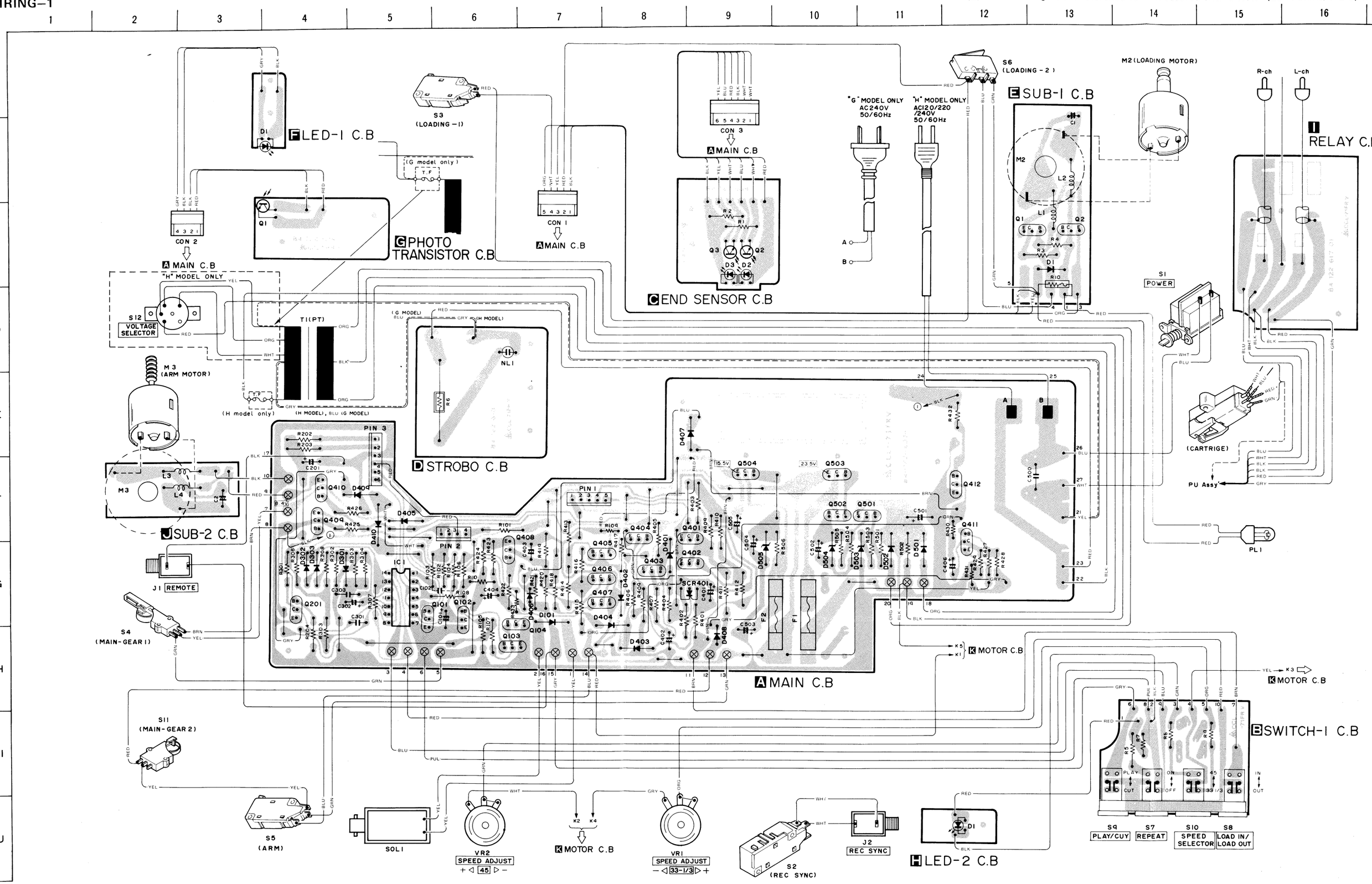
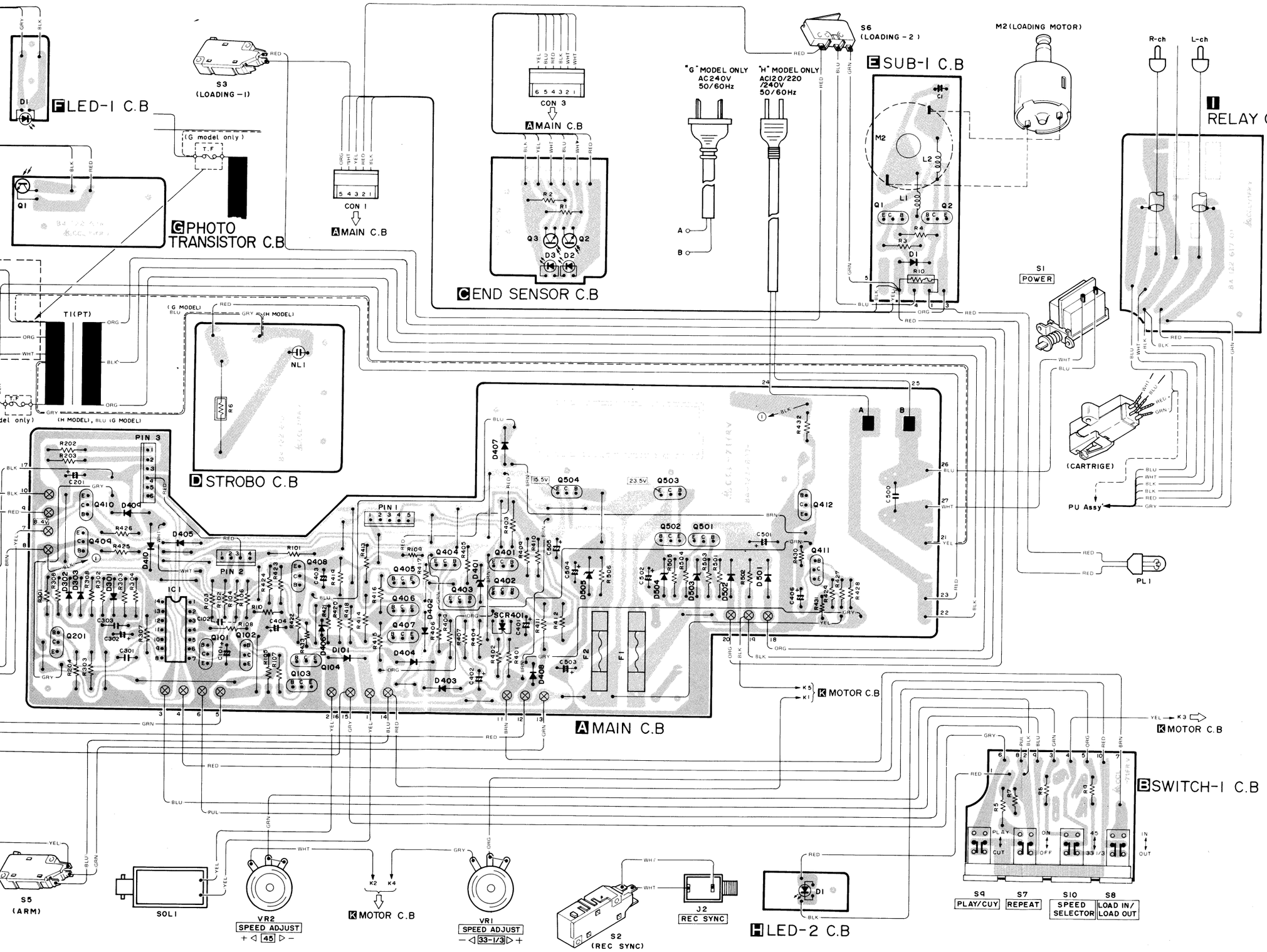
WIRING–1

NOTES (1) B(+) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when t



NOTES (1) B(+) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



AP-D80H,G AP-D80H,G

WIRING–2

NOTES (1) B(+) Pattern Others pattern
(2) The voltage is the reference value measured with a tester (20 K ohms/V DC) when there are no signals.

K MOTOR C.B

X11 2SA733 (P or K) | X1,2,3,4 2SC2001 (L or K) | X9,10,12 2SC945 (P or K) | X5,6,7,8 2SA733 (P or Q)

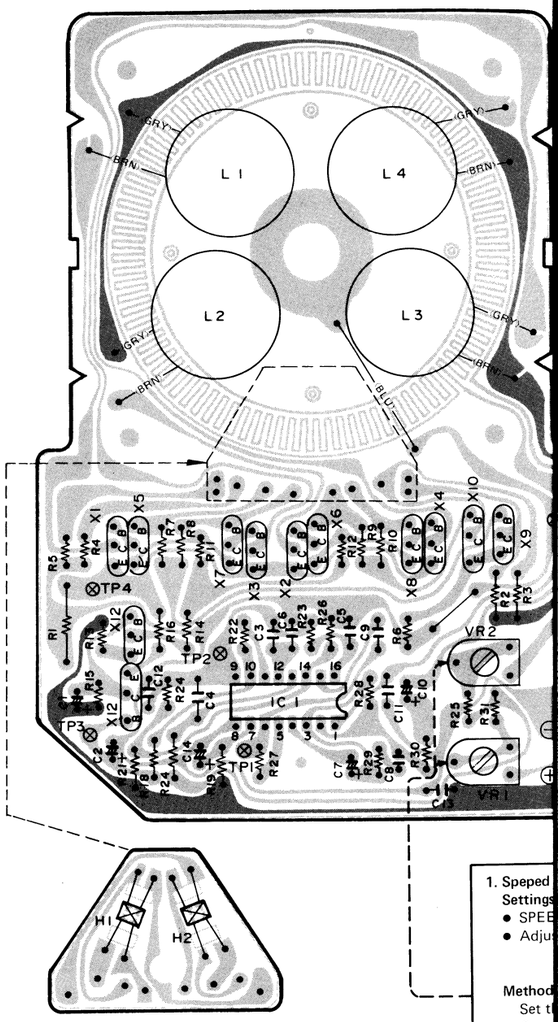
to VR2 — 47K — R25 5.6K
to VR1 — VR1 47K — R31 82K — R24 160K

B SWITCH-1 C.B to B4

C4 0.1 (M) — TP2
R26 3.3K — R17 10K — R21 68K
C5 0.0047 (M) — R23 68K
C3 0.01 (M)
C6 0.01 (M) — R22 100K
R18 2.2K
C12 0.022
C9 0.01 (M)
IC1 VC1029
R19 680
TP3
C11 0.022
FG
C10 10/35 — R30 1K
R28 820K — C7 47/25
C8 0.001 — R29 10K
R27 1M
TP1
C14 22/25
C2 4.7/25
TP4
R16 180
C1 0.47/50 — R15 3.3K — R13 220 — L1 — R2 1K — L3 — L2 — R3 1K — L4
X11 — R14 1.2K
X9 — X10
R11 68 — R7 4.7K — R8 4.7K — R12 68 — R9 4.7K — R10 4.7K
X5 — X7 — X6 — X8
X1 — X3 — X2 — X4
H2 — H1
R4 1K — R5 1K
R6 3.3K
R1 3.9 (1W)
C13 0.022

A MAIN C.B to A14
A MAIN C.B to A19

K MOTOR C.B.



1. Speped
Settings
• SPEE
• Adju
Method
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Next
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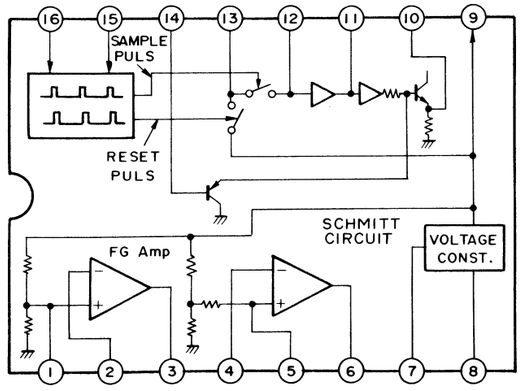
IC1 VC1029



Point ⓐ
—〃— ⓑ 5Vp-p
—〃— ⓒ 3Vp-p

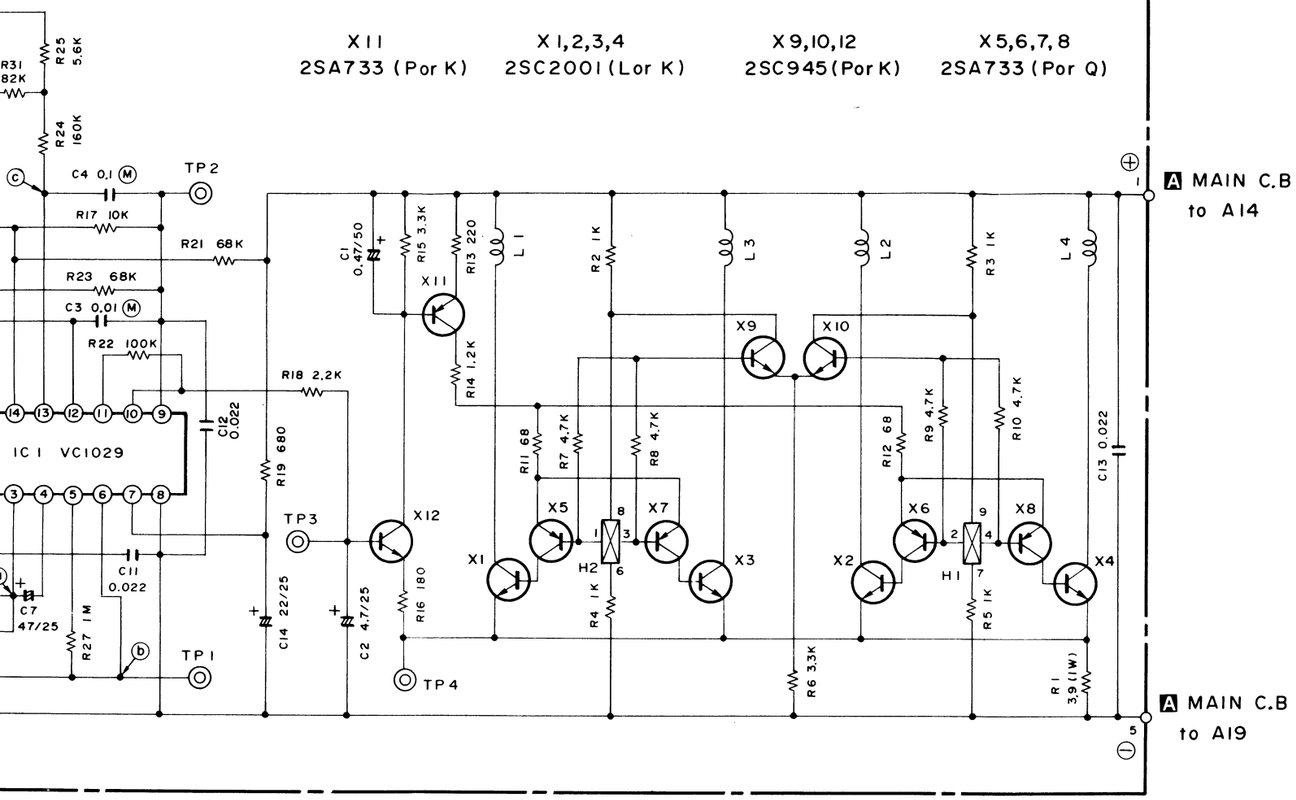
rn Others pattern

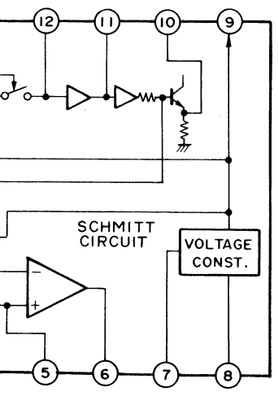
e reference value measured with a tester (20 K ohms/V DC) when there are no signals.

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

TOR C.B

X11 2SA733 (Por K) | X1,2,3,4 2SC2001 (Lor K) | X9,10,12 2SC945 (Por K) | X5,6,7,8 2SA733 (Por Q)



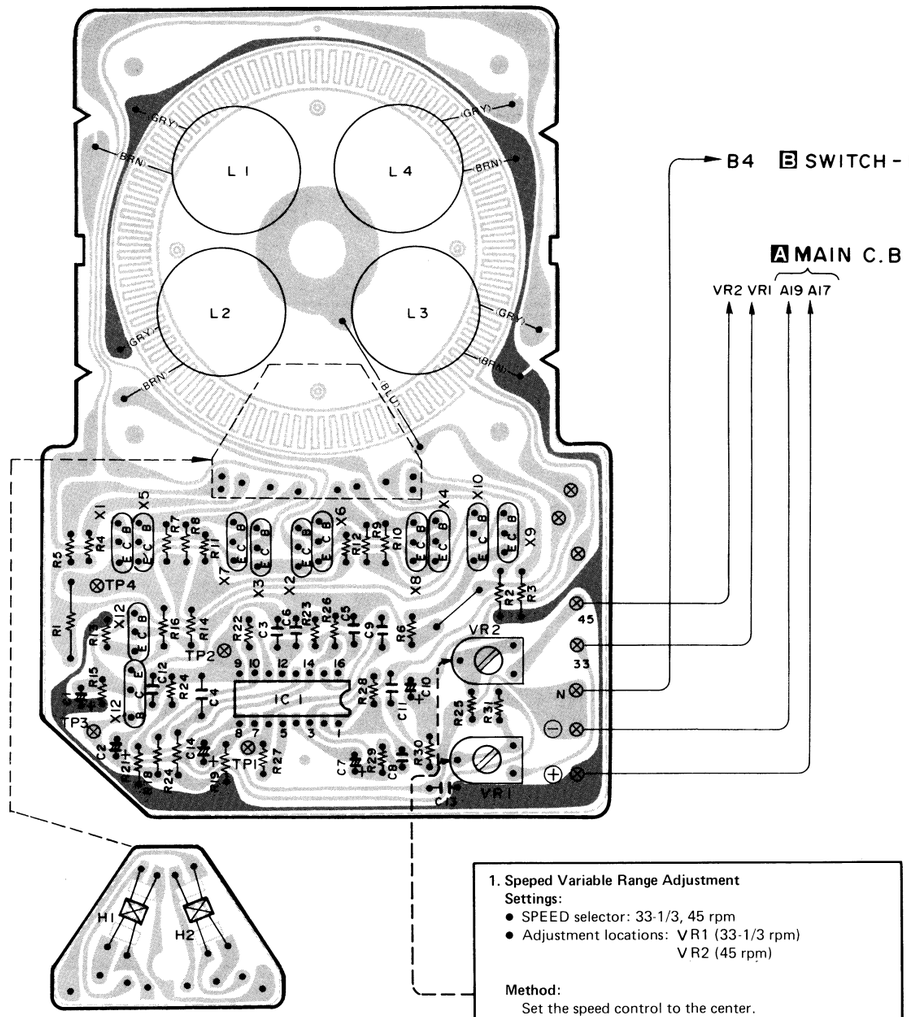


Point ⓐ

—"— ⓑ 5Vp-p

—"— ⓒ 3Vp-p

K MOTOR C.B.



1. Speped Variable Range Adjustment

Settings:

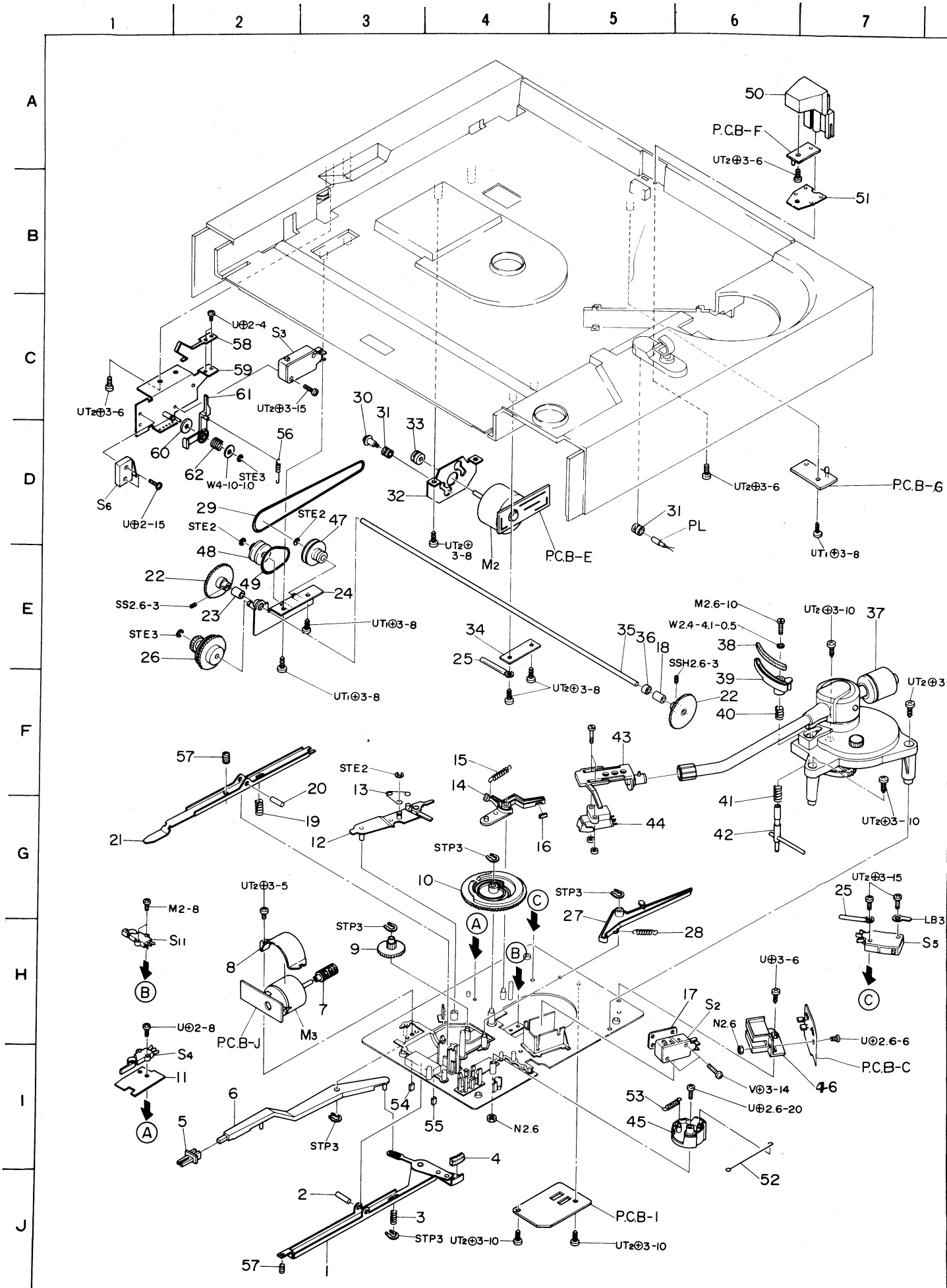
- SPEED selector: 33-1/3, 45 rpm
- Adjustment locations: VR1 (33-1/3 rpm)
  VR2 (45 rpm)

Method:

Set the speed control to the center.
Connected with the frequency counter of TPI.
Set the speed selector switch to 33-1/3 rpm and adjust **VR1** so that the frequency become 50.00 Hz (20 msec).
Next, set the speed selector switch to 45 rpm and adjust **VR2** so that the frequency become 67.52 Hz (14.81 m sec).

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
2-1	82-780-008-01		Push-button C	SA-C80	1
2-2	82-385-382-01		Rod P		1
2-3	82-385-383-01		Stopper, Rod		1
2-4	84-117-244-01		Holder C, Power switch	AP-D50	1
2-5	84-117-245-01		Holder D, Volume	AP-D50	1
2-6	87-038-039-01		Wire binder		4
2-7	84-117-011-01		Knob, Volume	AP-D50	2
2-8	84-117-246-01		Motor chassis ass'y	AP-D50	1
2-9	84-117-350-01		C-spring, Damper N	AP-D50	4
2-10	84-117-018-01		Jack plate	AP-D50	1
2-11	87-085-182-01		Cord bushing B		1
2-12a	87-034-956-01		AC power cord (H model only)		1
2-12b	87-034-892-01		AC power cord (G model only)		1
2-13	84-199-606-01		Pin cord		1
2-14	82-781-004-01		Push-button A	SA-P80	4
2-15	84-122-202-01		Holder B, Push-switch	*	1
2-16	84-122-225-01		Cam A, Up-down	*	1
2-17	84-122-220-01		Holder C, Up-down	*	1
2-18	84-122-232-01		Plate spring, Lock	*	1
2-19	84-117-619-01		Sheet, Insulation (G model only)	AP-D50	1
2-20	84-117-330-01		Holder nut M4—0.7	AP-D50	2
2-21	84-117-637-01		Sield plate P, T (G model only)	AP-D50	1
2-22	87-085-166-01		Holder, AC power cord (G model only)		1
2-23	84-122-623-01		Heat sink	*	1
2-24	87-085-181-01		Cord bushing A (H model only)		1
2-25	84-117-639-01		Shield plate (B) (G model only)	AP-D50	1
2-26	87-084-066-01		Nylon rivet		1
2-27	84-122-223-01		Collar, Drive shaft N	*	1
2-28	84-117-367-01		Mechanism chassis ass'y	AP-D50	1
2-29	84-116-204-01		Holder, Plunger		1
2-30	84-117-247-01		C-spring, Damper	AP-D50	4

EXPLODED VIEW–3



Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
3-1	84-117-234-01		Lever A, Manual ass'y	AP-D50	1
3-2	84-117-229-01		Shaft A	AP-D50	1
3-3	84-117-327-01		C-spring, Manual	AP-D50	1
3-4	84-117-315-01		Rubber B, Friction	AP-D50	1
3-5	84-117-010-01		Knob B, Arm carrier	AP-D50	1
3-6	84-117-240-01		Lever C, Manual	AP-D50	1
3-7	84-122-210-01		Worm gear, A	*	1
3-8	84-122-230-01		Cover A, Motor	*	1
3-9	84-117-204-01		Gear A, Relay	AP-D50	1
3-10	84-117-205-01		Gear B, Drive	AP-D50	1
3-11	84-117-320-01		Switch plate B	AP-D50	1
3-12	84-117-207-01		Arm carrier lever ass'y	AP-D50	1
3-13	84-117-213-01		T-spring	AP-D50	1
3-14	84-117-214-01		Lever, Friction	AP-D50	1
3-15	84-117-328-01		E-spring, Friction	AP-D50	1
3-16	84-117-215-01		Felt, Friction	AP-D50	1
3-17	84-117-239-01		Plate A, Switch	AP-D50	1
3-18	84-117-325-01		Collar, Drive shaft N	AP-D50	1
3-19	84-117-228-01		C-spring, Up	AP-D50	1
3-20	84-117-323-01		Shaft A, Up-down	AP-D50	1
3-21	84-117-231-01		Lever, Up-down	AP-D50	1
3-22	84-117-253-01		Gear, Drive	AP-D50	2
3-23	84-122-223-01		Collar, Drive shaft	*	1
3-24	84-117-299-01		Holder E ass'y	AP-D50	1
3-25	87-038-039-01		Wire binder		2
3-26	84-122-209-01		Drive gear B	*	1
3-27	84-117-334-01		Arm stopper B ass'y	AP-D50	1
3-28	84-117-307-01		E-spring, FG	AP-D50	1
3-29	82-439-232-01		Belt, Counter		1
3-30	87-081-483-01		Motor screw, M2.6		3
3-31	87-087-029-01		Rubber cushion		3
3-32	84-122-201-01		Holder B, Motor	*	1
3-33	84-117-361-01		Pulley, Motor	AP-D50	1
3-34	84-117-300-01		Plate D, Holder	AP-D50	1
3-35	84-117-251-01		Shaft, Drive	AP-D50	1
3-36	84-195-257-01		Holder, Screw		1
3-37	09-041-054-01		Tone arm ass'y		1
	84-117-101-01		Tone arm	AP-D50	1
	82-285-236-01		Washer, Carrying handle		1
	82-416-341-01		Wave washer		1
	84-117-219-01		Arm plate ass'y	AP-D50	1
	84-117-223-01		Cam B, eccenricity	AP-D50	1
	84-117-313-01		E-spring, Cam B	AP-D50	1
	87-410-213-01		W3—6—0.5		1
	87-341-095-01		UT_1 + 3—8		1
	87-364-070-01		SSH2.6—3		2
3-38	84-117-029-01		Rubber, Elevation	AP-D50	1
3-39	84-117-042-01		Elevation plate	AP-D50	1
3-40	84-117-340-01		C-spring, Elevation	AP-D50	1
3-41	84-117-226-01		C-spring, Down	AP-D50	1
3-42	84-117-365-01		Lifter shaft ass'y	AP-D50	1
3-43	84-117-951-01		Head shell	AP-D50	1
3-44	84-117-952-01		Cartridge ass'y	AP-D50	1
3-45	84-122-226-01		Cam B, Size select	*	1
3-46	84-117-218-01		Holder A, End	AP-D50	1
3-47	84-117-358-01		Pulley A	AP-D50	1
3-48	84-117-359-01		Pulley B	AP-D50	1
3-49	84-117-362-01		Belt	AP-D50	1
3-50	84-122-008-01		Cover, B sensor	*	1
3-51	84-122-009-01		Holder, D sensor	*	1
3-52	84-122-227-01		T-spring, Solenoid	*	1
3-53	84-122-231-01		T-spring, Solenoid	*	1
3-54	84-117-337-01		Spacer A, Shaft A	AP-D50	1
3-55	84-117-338-01		Spacer B, Shaft A	AP-D50	1
3-56	84-122-236-01		E-spring, Lever A	*	1
3-57	82-385-311-01		Thrust screw		2
3-58	82-122-211-01		Leaf lever A, Switch	*	1
3-59	84-122-218-01		Holder C, Slide switch	*	1
3-60	84-122-237-01		Felt 12-4-1	*	1
3-61	84-122-212-01		Lever A, Slide switch	*	1
3-62	84-122-235-01		C spring, Lever A	*	1

Timing Chart (General auto mode)

PLAY/CUT PLAY/CUT

● STOP → PLAY → STOP

(REPEAT SWITCH OFF and ON)

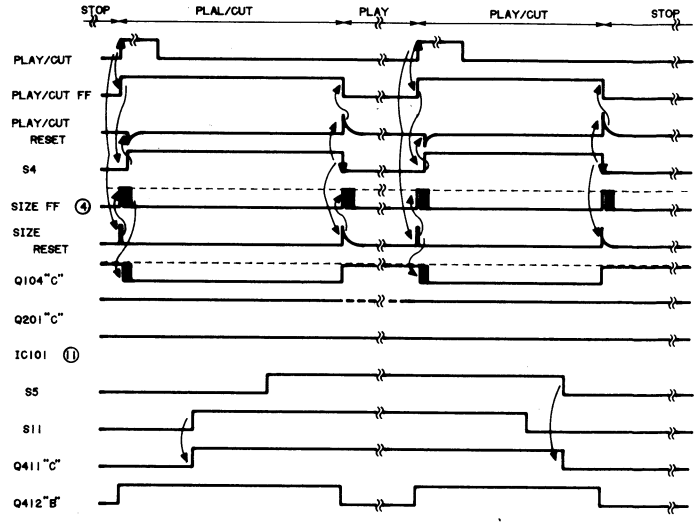


Fig-1

PLAY/CUT (AUTO RETURN) END

● STOP → PLAY → STOP

(REPEAT SWITCH OFF)

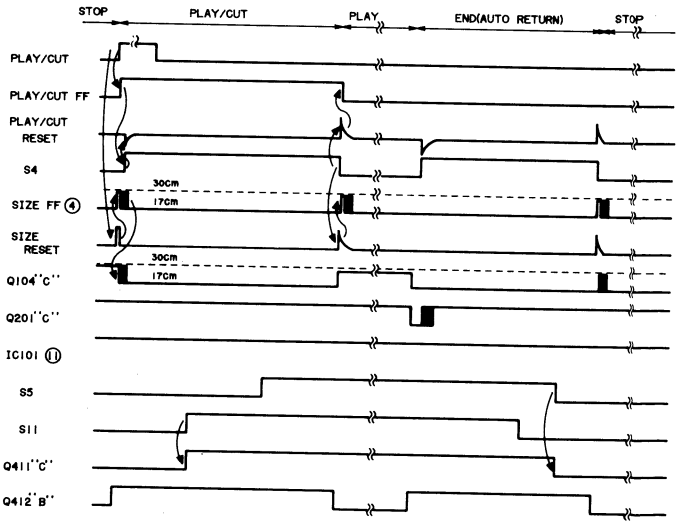


Fig-2

PLAY/CUT END DETECTION REPEAT

● STOP → PLAY ⟷ (STOP) → PLAY

(REPEAT SWITCH ON)

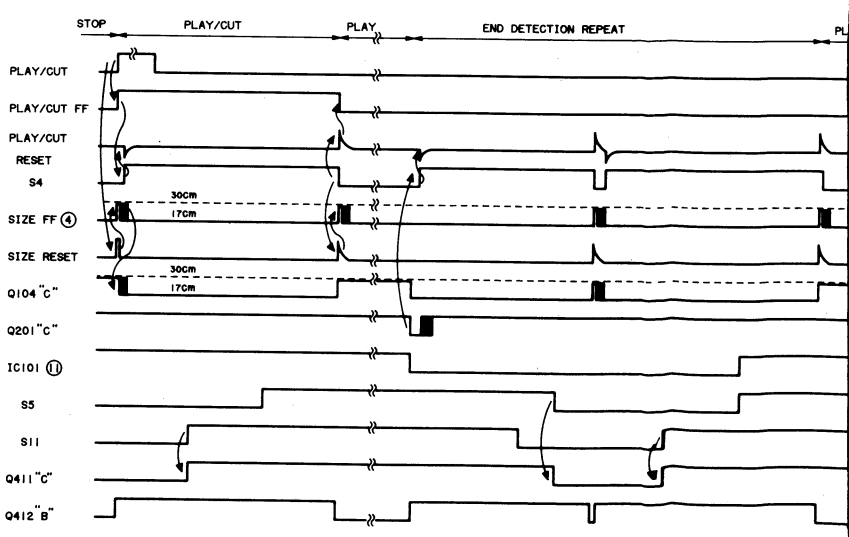


Fig-3

MANUAL• IN

MANUAL•OUT MANUAL•IN

PLAY/CUT

● STOP → PLAY ⇄ (STOP) → STOP

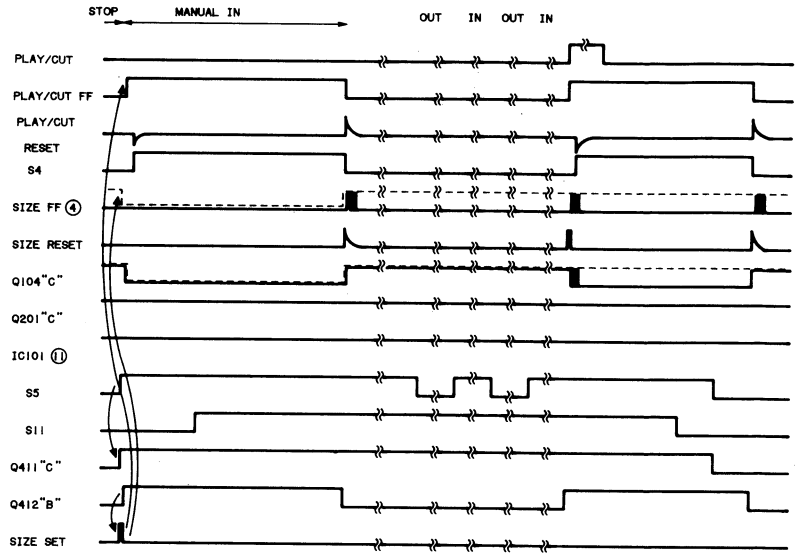


Fig-4

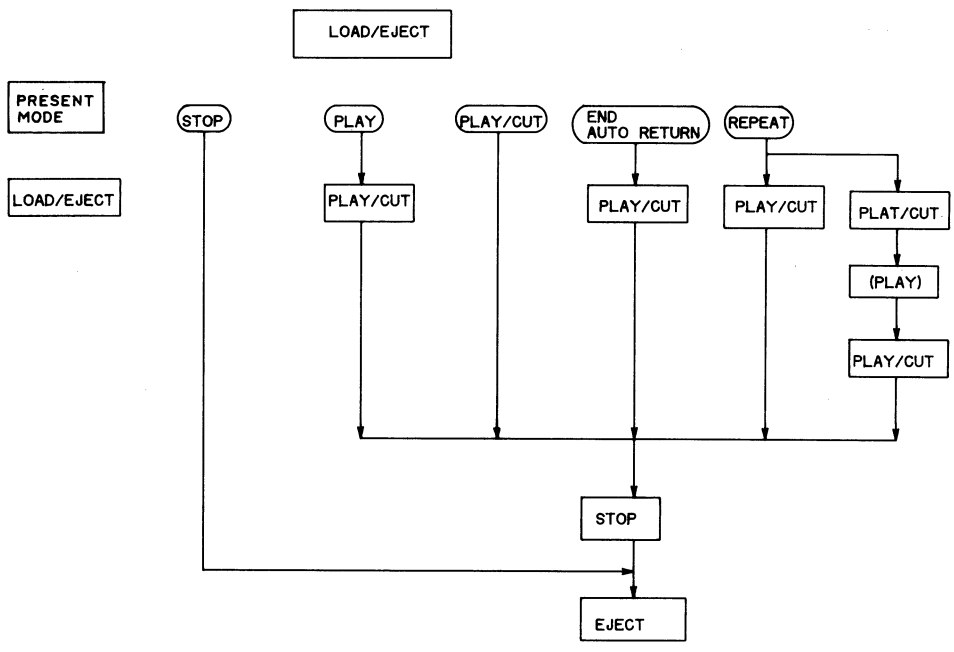


Fig-5

ACCESSORIES/PACKAGE

Ref. No.	Part No.	Part No. Changed to	Description	Common Model	Q'ty
1	84-122-852-01		Printed indiv., Packing	*	1
2	84-117-852-11		Cushion front, Printed indiv	AP-D50	1
3	84-117-853-01		Cushion R, Printed indiv.	AP-D50	1
4	84-117-854-01		Cushion A, Auxiliary	AP-D50	1
5	84-117-855-01		Sheet, Auxiliary	AP-D50	1
6	84-117-861-01		Bag, Foamed mat	AP-D50	1
7	84-184-860-01		Foamed mat		1
8	84-196-858-01		Foamed mat		1
9	87-051-132-11		Poly-vinyl sack		3
10	87-051-171-11		Poly-vinyl sack		1
11	87-056-604-01		Poly-vinyl sack		1
12	87-056-608-01		Poly-vinyl sack		1
13a	84-122-906-01		Instructions booklet (H model only)	*	1
13b	84-122-907-01		Instructions booklet (G model only)	*	1
14	87-056-009-51		Distributors list		1
15	87-056-059-01		Guarantee card (G model only)		1
16	84-190-965-01		Adapter, 45		1
17	85-439-002-01		Syncrate cord CW-150K		1
18	84-117-951-01		Head shell	AP-D50	1
19	84-117-952-21		Cartridge ass'y.	AP-D50	1
20	87-032-845-01		Siemens plug (H model only)		1

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